

ABSTRACT OF THE DISCLOSURE

An object of the present invention is to provide a delay apparatus which can delay not only a rising edge but also falling edge of the digital signal for a predetermined delay period of time.

To achieve the above-described object of the present invention, according to the present invention, there is provided a delay apparatus for delaying a digital signal for a predetermined delay period of time, the digital signal having a first and a second logic levels, comprising:

a first edge detection circuit which detects a first edge of the digital signal whereon the level of the digital signal changes from the first logic level to the second logic level, and generates a first detection signal;

a set circuit which includes a first counter for counting a reference clock signal to generate a count value and clearing its own count value in response to the first detection signal, wherein the set circuit generates a set signal if the count value reaches the number of the reference clock signals corresponding to the delay period of time;

a reset circuit which generates a reset signal if an elapsed period of time since a generation of the set signal equals to a period of time while the digital signal maintain the second logic level; and

an output circuit which outputs a digital signal including edges synchronized with the set signal and the reset signal.